REMARKS

Telephone Conference with the Examiner

Initially, the Applicants' attorneys wish to thank the Examiner for her consideration of the proposed amendments during the telephone conference on February 12, 2003. Amendments to the claims that are consistent with those discussed are presented herein.

Amendments to the Specification

A number of non-substantive amendments were made to the specification. The amendments include changing various instances of "nitrous oxides" to the more-accurate term, "nitrogen oxides," consistent with the reference to "NO_x" at page 1, line 19, and at page 8, line 11 of the patent application, as filed. Additionally, the term, "carbon monoxides," was changed to the more-accurate singular form, "carbon monoxide." No new matter is added.

Amendments to the Claims

Upon entry of the present amendments, claims 1-4, 6-18 and 20-23 are pending. In the amendments, the term, "high-grade," was removed from claims 1 and 13. Additionally, the term, "nitrous oxides," was changed to "nitrogen oxides"; and the term, "monoxide," was changed to "monoxide." These latter two amendments are consistent with the changes to the specification cited above.

Additionally, claim 15 was amended to specify that the natural oil byproduct is the unvaporized remnant of a natural oil composition after fatty acids are separated from the natural oil byproduct via distillation; support for this amendment is found, *e.g.*, at page 3, lines 25-31. Claims 18 and 20 were also amended to put them in independent form, incorporating the limitations of the claims from which they previously depended.

Each of the grounds for rejection cited in the Office Action is addressed below, under an appropriate sub-heading.

Election/Restrictions

The Office Action noted the restriction that was previously issued, requiring election of either of the following two groups of claims directed to distinct inventions:

I. claims 1-23; and

II. claims 24-33.

Applicants hereby confirm the election of group I and reserve the right to pursue the claims of the unelected group in a future application.

35 U.S.C. §112, Second Paragraph

Claims 1-14 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite. Specifically, objection was raised against use of the term, "high-grade," in claims 1 and 13 on the ground that the term, "high," is a relative term that does not have comparative value. Claims 1 and 13 have been amended herein to remove the term, "high-grade," thereby remedying this ground for rejection.

35 U.S.C. §103(a)

Claims 15-17 and 21-23 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 4,342,656, issued to Walsh (hereafter referred to as "Walsh").

Specifically, the United States Patent and Trademark Office noted that Walsh teaches a process for disposal of aqueous wastes. The Office further stated that Walsh teaches the limitations of the claims other than the claimed amounts of fatty acid and unhydrolyzed fat/oil but that it would be reasonable to expect that the lipoidal waste of Walsh would contain the claimed amounts.

Claim 15 is in independent form, and claims 16, 17 and 21-23 depend from claim 15 and therefore incorporate its limitations. Claim 15 has been amended to specify that the natural oil byproduct is the unvaporized remnant (still bottom) of a natural oil composition after fatty acids are separated from the natural oil byproduct via distillation.

Walsh, in contrast, is directed to a process involving aqueous lipoidal wastes that are skimmed or strained from the surface of a waste water collection.[1] Accordingly, the lipoidal waste of Walsh includes a substantial concentration of water, whereas the unvaporized still

[1] U.S. 4,342,656 (Walsh), Col. 1, line 63, through Col. 2, line 4.

bottom of a fatty-acid distillation process does not.[2] Further, Walsh does not disclose or suggest distilling the lipoidal waste described therein to produce a still-bottom byproduct.

Because Walsh does not disclose or suggest a process involving an unvaporized byproduct of a distillation process, Applicants respectfully submit that amended claim 15 is non-obvious over Walsh.

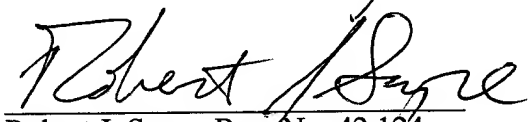
Objections to Claims 18-20

Claims 18-20 were objected to as being dependent upon a rejected base claim, though it was indicated that these claims would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 18 and 20 are so amended herein (while claim 19 is cancelled). Hence, claims 18 and 20 should now be allowable as independent claims.

CONCLUSION

On the basis of the foregoing amendments, Applicants respectfully submit that the pending claims are in condition for allowance. If there are any questions regarding these amendments and remarks, the Examiner is encouraged to contact the undersigned at the telephone number provided below.

Respectfully submitted,



Robert J. Sayre, Reg. No. 42,124
Attorney for Applicants
c/o MINTZ, LEVIN
One Financial Center
Boston, Massachusetts 02111
Tel: (617) 542-6000
Fax: (617) 542-2241

Dated: February 20, 2003

[2] See *id.*, Col. 2, lines 5-10.

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Specification:

Amendments to the specification are shown below, with additions underlined and deletions struck through.

The paragraph beginning at page 1, line 4, has been amended as follows:

~~Each breath we take is a reminder of the~~The ecological importance of ~~and need for~~ clean air is as evident as our need to breathe. Nevertheless, the demands of an industrialized society and the consequent ~~need to burn~~burning of fuel for energy tends to compromise air quality. Existing fuels that are burned in boiler systems to produce steam for heating and power supply include distillate (number 2) fuel oil, residual (number 6) fuel oil, blended distillate and residual fuel oil, and coal. These fuels typically release substantial quantities of harmful pollutants, such as sulfur oxides, ~~nitrous~~nitrogen oxides and carbon monoxide. Moreover, each of these fuels is subject to supply shortages ~~in supply~~ as societal energy demands increase. In fact, dwindling mineral oil reserves are a primary factor in the ongoing energy-supply crisis.

The paragraph beginning at page 1, line 18, has been amended as follows:

Many existing energy sources, particularly mineral oils (*e.g.*, petroleum-based fuels), release substantial amounts of pollutants, such as ~~nitrous~~nitrogen oxides (NO_x), sulfur oxides (SO_x), carbon ~~monoxides~~monoxide (CO) and particulate matter (PM) upon burning. These pollutants cause respiratory diseases, other human ailments and, over time, death. These pollutants also poison the environment via acid rain, ground-level ozone and greenhouse-gas-induced global warning.

The paragraph beginning at page 2, line 9, has been amended as follows:

The natural oil byproduct can include free fatty acid and unhydrolyzed fats/oils as primary constituents. The terms, "fat" and "oil," are generally used interchangeably herein. The term, "fat," is generally used in reference to animal products, while the term, "oil," is generally used in reference to vegetable products. However, recitations of either "fat" or "oil," as in "natural oil byproduct," can refer to a byproduct of either animal fat or vegetable oil or a

combination of the two. Likewise, recitation of an "unhydrolyzed fat/oil" ~~refer~~refers to an unhydrolyzed animal fat, an unhydrolyzed vegetable oil or a combination of the two.

The paragraph beginning at page 3, line 1, has been amended as follows:

By substituting the natural oil byproduct, in whole or in part, for another fuel (such as number 2 fuel oil, number 6 fuel oil, coal and combinations thereof), an energy producer can achieve a substantial decrease in the emission of ~~nitrous~~nitrogen oxides, sulfur oxides, carbon monoxide and particulate matter. Particular advantages can be achieved by substituting the natural oil byproduct for the other fuel(s) in situations where a desired level of energy production cannot be achieved using only the other fuel(s) without violating pollutant-emission levels established by a regulatory agency. Pollutant-emission levels can be maintained at or below regulated limits by evaluating the respective emission concentrations ~~in~~from the natural oil byproduct and ~~in~~from the other fuel(s) and calculating the concentration ratio of the byproduct and the fuel(s) that will produce desired emission concentrations, wherein the resultant emission concentrations will be a proportional function of the respective emission concentrations for the different fuels.

The paragraph beginning at page 7, line 1, has been amended as follows:

An energy producer (*e.g.*, a boiler operator) can substitute the natural oil byproduct, in whole or in part, for another fuel, such as number 2 fuel oil, number 6 fuel oil, coal and combinations thereof, as an energy source to be burned in the furnace of the boiler. In so doing, the energy producer can achieve a substantial decrease in the amount of ~~nitrous~~nitrogen oxides, sulfur oxides, carbon monoxide and particulate matter emitted as a consequence of burning the fuels. In some situations, a desired level of energy production cannot be achieved using only a combination of number 2 and number 6 fuel oil, for example, without violating regulated pollutant-emission limitations.

In the Claims:

Claims 5 and 19 have been cancelled.

type of fuel, the substitution of the natural oil byproduct producing a decrease in the emission of at least one pollutant chosen from ~~nitrous~~nitrogen oxides, sulfur oxides, carbon ~~monoxides~~monoxide and particulate matter.

18. (Amended) ~~The method of claim 16,~~ A clean-emissions method for generating energy comprising the steps of:

burning a natural oil byproduct comprising about 20% to about 40% by weight free fatty acid and from about 20% to about 70% by weight unhydrolyzed fat/oil to release energy, wherein the natural oil byproduct is burned in a furnace in which the natural oil byproduct is substituted, in whole or in part, for another type of fuel, and wherein the substitution of the natural oil byproduct for the other fuel reduces ~~one or more emitted pollutant concentrations~~ the emission of at least one pollutant chosen from nitrogen oxides, sulfur oxides, carbon monoxide and particulate matter to a level within a limit established by a regulatory agency, wherein burning the fuel without the natural oil byproduct to produce the same amount of energy would emit one or more pollutants at a concentration above the established limit; and

harnessing energy released by burning the natural oil byproduct to drive a process.

20. (Amended) ~~The method of claim 15, wherein the natural oil byproduct further comprises~~ A clean-emissions method for generating energy comprising the steps of:

burning a natural oil byproduct comprising about 20% to about 40% by weight free fatty acid, from about 20% to about 70% by weight unhydrolyzed fat/oil, about 2% to about 5% by weight unsaponifiable impurities and about 2% to about 7% by weight oxidized, polymerized fatty materials to release energy; and

harnessing energy released by burning the natural oil byproduct to drive a process.

US 0993922509P1

Creation date: 10-08-2003
Indexing Officer: OADAN - ORLANDO ADAN
Team: OIPEBackFileIndexing
Dossier: 09939225

Legal Date: 02-21-2003

No.	Doccode	Number of pages
1	EXIN	3

Total number of pages: 3

Remarks:

Order of re-scan issued on .....